

FIG. 1

(d)

GYRB BACSU MEQQQNSYDENQIQVLEGLEAVRKRPGMYIGSTNS-KGLHHLVWEIVDNSIDEALAGYCT  
 GYRB ECOLI ----SNSYDSSSIKVLKGLDAVRKRPGMYIGD~~TD~~DTGLHLMVFEVDNAIDEALAGHCK  
 GYRB PSEPU -MSENQTYDSSSIKVLKGLDAVRKRPGMYIGD~~TD~~DDGSLHLMVFEVDNSIDEALAGHCD

(a)

GYRB BACSU DINIQIEKDNSITVVDNNGRGIPVGIHEKMGRPAVEVIMTVLHAGGKFDGSGYKVSGLLHG  
 GYRB ECOLI EIIIVTIHADNSVSVQDDGRGIPGTGIHPEEGVSAAEVIMTVLHAGGKFD~~DD~~NSYKVSGLLHG  
 GYRB PSEPU DITVIIHTDESISVRDNGRGIPVDVHKEEGVSAAEVIMTVLHAGGKFD~~DD~~NSYKVSGLLHG

GYRB BACSU VGASVVNALSTELDVTVHRDGIHRQTYKRGVPVTDLEIIGETDHTGTTTHFVPDPEIFS  
 GYRB ECOLI VGVSVVNALSQKLELVIQREGKIHRQIYEHGVPQAPLAVTGETEKTGTMRWFPSLETFT  
 GYRB PSEPU VGVSVVNALSEKLVLTVRRSGKIWEQTYVHGVPQAPMAVVGES~~ETT~~GTHIHFKPSAETFK

GYRB BACSU ETTEYDYDLLANRVRELAFLTKGVNITIEDKREGQERKNEYHYEGGIKSYVEYLNRKEV  
 GYRB ECOLI NVTEFEYEILAKRLRELSFLNSGVSI~~RL~~RD~~K~~RDGKE--DHFHYEGGIKAFVEYLNKNKTP  
 GYRB PSEPU N-IHFSWDILAKRIRELSFLNSGVGILLK~~D~~ERSGKE--EFFKYEGGLRAFVEYLN~~T~~NKTP

(1) (b)

GYRB BACSU VHEEPIYIEGK-DGITVEVALQYND~~SY~~TSNIYSFTNNINTYEGGT~~HE~~AGFKTGLTRVIN  
 GYRB ECOLI IHPNIFYFST~~E~~K-DGIGVEVALQW~~ND~~GFQENIYCFTNNIPQ~~RD~~GGTHLAGFRAAMTRTLN  
 GYRB PSEPU VNSQVFHFSVQREDGVGVEVALQW~~ND~~SFNENLLCFTNNIPQ~~RD~~GGTHLVGFRSSLTRSLN

(h) (e)

GYRB BACSU DYARKKGLIKENDPNLSGDDVREGLTAIIISIKHPDPQFEGQTKTKLGNSEARTITDTLFS  
 GYRB ECOLI AYMDKEGYSKKAKVSATGDDAREGLIAVSVKVPDPKFSSQTKDKLVSSEVKSAVEQQMN  
 GYRB PSEPU SYIEQEG~~L~~AKKNKVATTGDDAREGLTAIIISV~~K~~VPDPKFSSQTKDKLVSSEVKTA~~V~~EQEMN

(k) (i)

GYRB BACSU TAMETFMLENPDAAKKIVDKGLMAARMAAKKAREL~~TRR~~KSAL~~E~~ISNLPGLK~~L~~AD~~C~~SSK~~D~~  
 GYRB ECOLI ELLAEYLL~~EN~~PTDAKIVVGKIIID~~A~~ARAREAAARRAREM~~TRR~~KGALDLA~~G~~LPGLK~~L~~AD~~C~~QERD  
 GYRB PSEPU KYFSDFLLENPNEAKAVVGKMIDAARAREAAARKAREM~~TRR~~KGALDIAGLPGLK~~L~~AD~~C~~QEKD

(g)

GYRB BACSU PSISELYIVEGDSAGGSAKQGRDRHFQAILPLRGKILNVEKARLDKILSNNEVRSMITAL  
 GYRB ECOLI PALSELYLV~~EG~~DSAGGSAKQGRNRKNQAILPLK~~G~~KILNVEKARFDKMLSSQEVATLITAL  
 GYRB PSEPU PALSELYLV~~EG~~DSAGGSAKQGRNRRTQAILPLK~~G~~KILNVEKARFDKMISSQEVGTLITAL

(c)

GYRB BACSU GTGIGED-FNLEKARYHKVVIMTDADVDGAHIRTLLLTFFYRYMRQIIENGYVYIAQPPL  
 GYRB ECOLI GCGIGRDEYNPD~~K~~LRYHSIIIMTDADVDGSHIRTLLLTFFYRQMP~~E~~IVERGHVYIAQPPL  
 GYRB PSEPU GCGIGREEYNID~~K~~LRYHNIIIMTDADVDGSHIRTLLLTFFRQLPELVERGYIYIAQPPL

GYRB BACSU YKVQQGK-----  
 GYRB ECOLI YKVKKGKQEYIKDDEAMDQYQISIALDGATLHTNASAPALAGEALEKLVSEYNATQKMI  
 GYRB PSEPU YKVKKGKQEYIKDDEAMEEYMTQSALEDASLHLD~~S~~APAVSGVQLES~~L~~VNEFRSVMKTL

GYRB BACSU -RVEYAY-----NDKE-----  
 GYRB ECOLI NRMERRYPKAM~~L~~KELIYQPTLTEADLSDEQTVTRWVNALVSELNDKEQHGSQWKFDVHTN  
 GYRB PSEPU KRLSRLYPEELTEHFVYLPEVTLEQLGDHAVMQAWLAKLQERLNSSQKSGLAYNASLRED

GYRB BACSU -----  
 GYRB ECOLI AEQNLFEPIVRVRTHGVDTDYPLDHEFITGGEYRRIC~~T~~LGEKLRGLLEEDAFIERGERRQ  
 GYRB PSEPU KERNVWLPEVEITSHGLASYITFN~~R~~DFGSDNYRTVVNIGAKLSLLGEGAYVQRGERRK

(f) (j)

GYRB BACSU ----LEELLKTL~~P~~QTPKP--GLQRYKGLGEMNATQLWET~~T~~MDPSSRTLLQVTLEDAMDAD  
 GYRB ECOLI PVASFEQALDWLVKESRRGLSIQRYKGLGEMNPEQLWET~~T~~MDPESRRMLRVTVKDAIAAD  
 GYRB PSEPU AIVEFKEGLDWLMNETTKRHTIQRYKGLGEMNPDQLWET~~T~~MDPTVRRMLKV~~T~~IEDAIAAD

GYRB BACSU ETFEMLMGDKVEPRRNFI~~E~~ANARYVKNLDI  
 GYRB ECOLI QLFTTLMGDAVEPRRAFIE~~E~~NALKAANIDI  
 GYRB PSEPU QIFNTLMGDAVEPRREFIESNALS~~V~~SNLDF